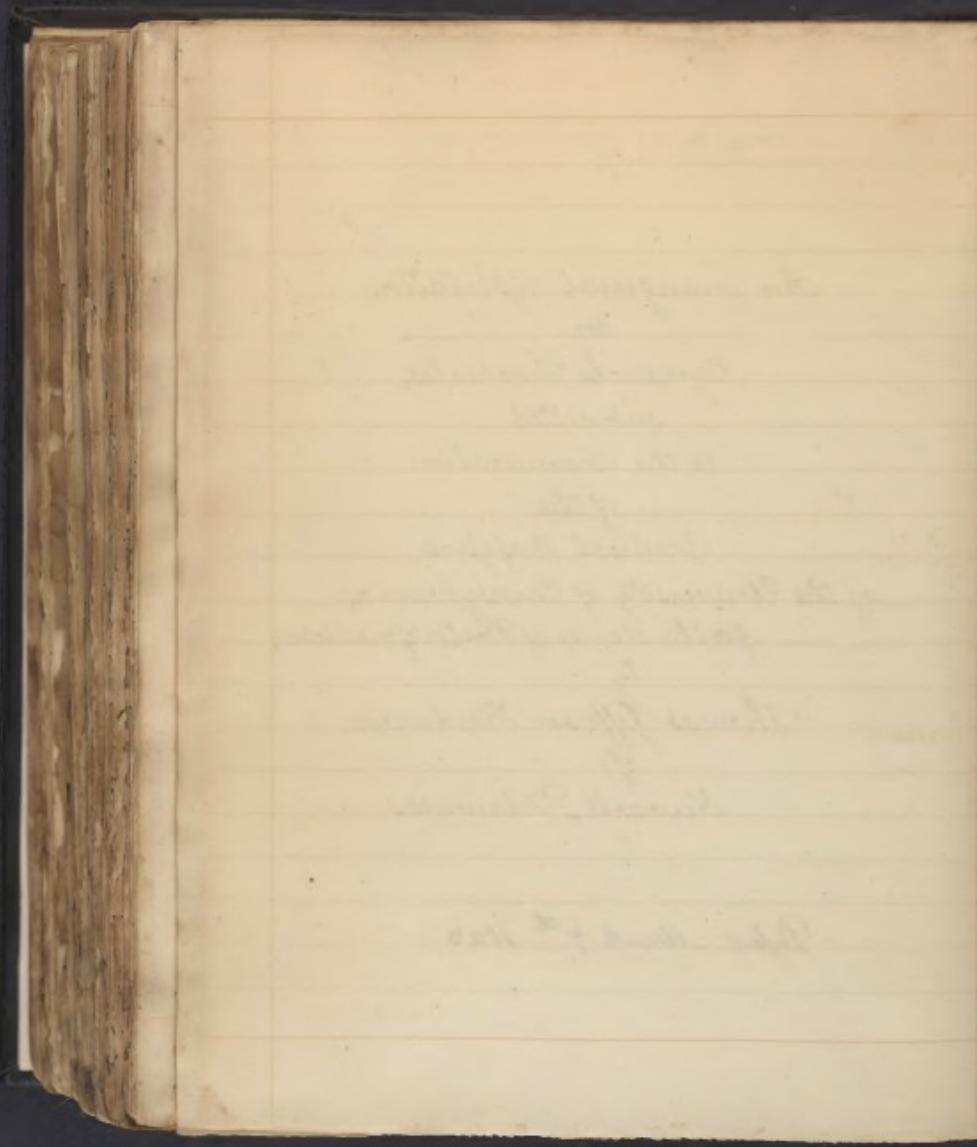
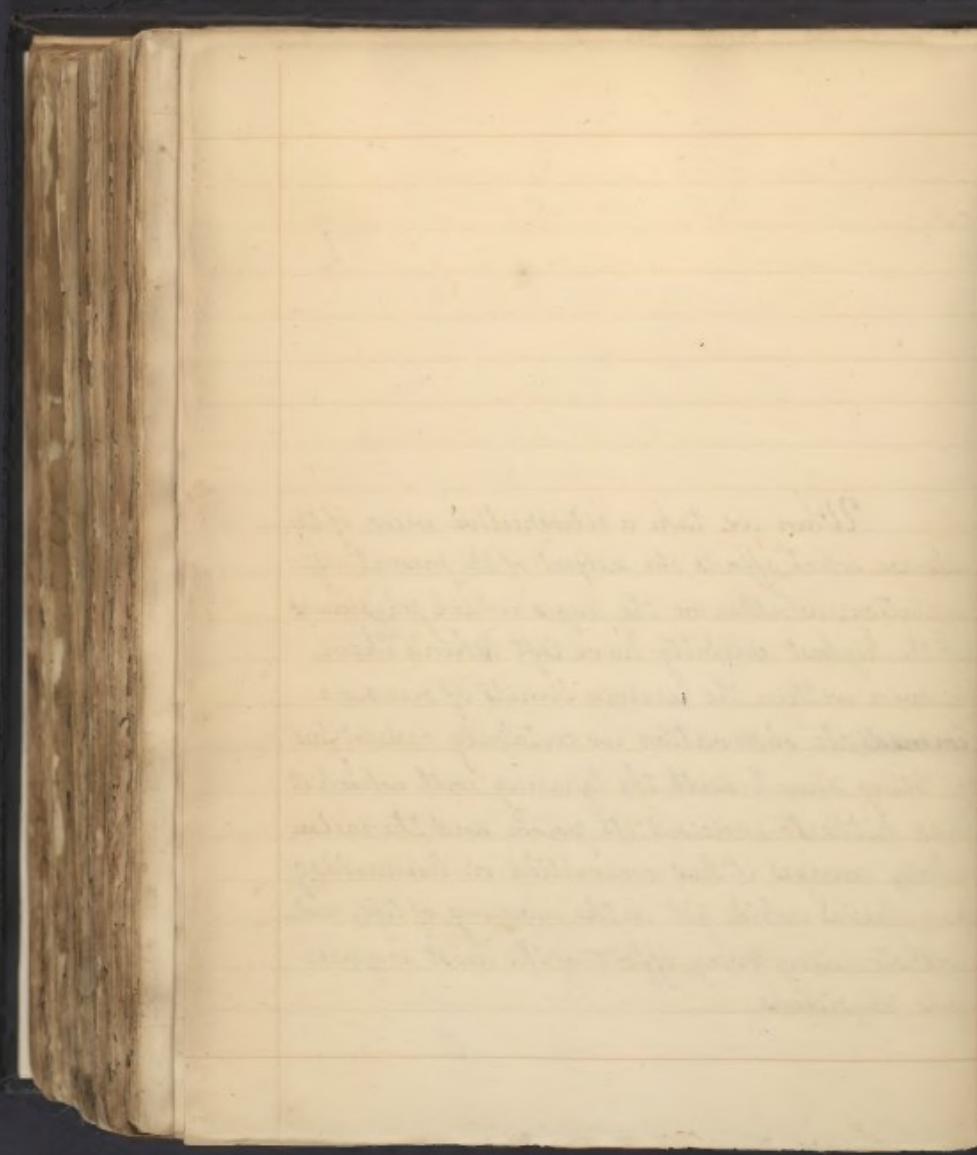


An inaugural dissertation
on
Cynanche Trachealis,
submitted
to the examination
of the
Medical Professors
of the University of Pennsylvania,
for the degree of Doctor of medicine;
by
Thomas Jefferson Herdman
of
Newark Delaware.

Passed March 7th 1828

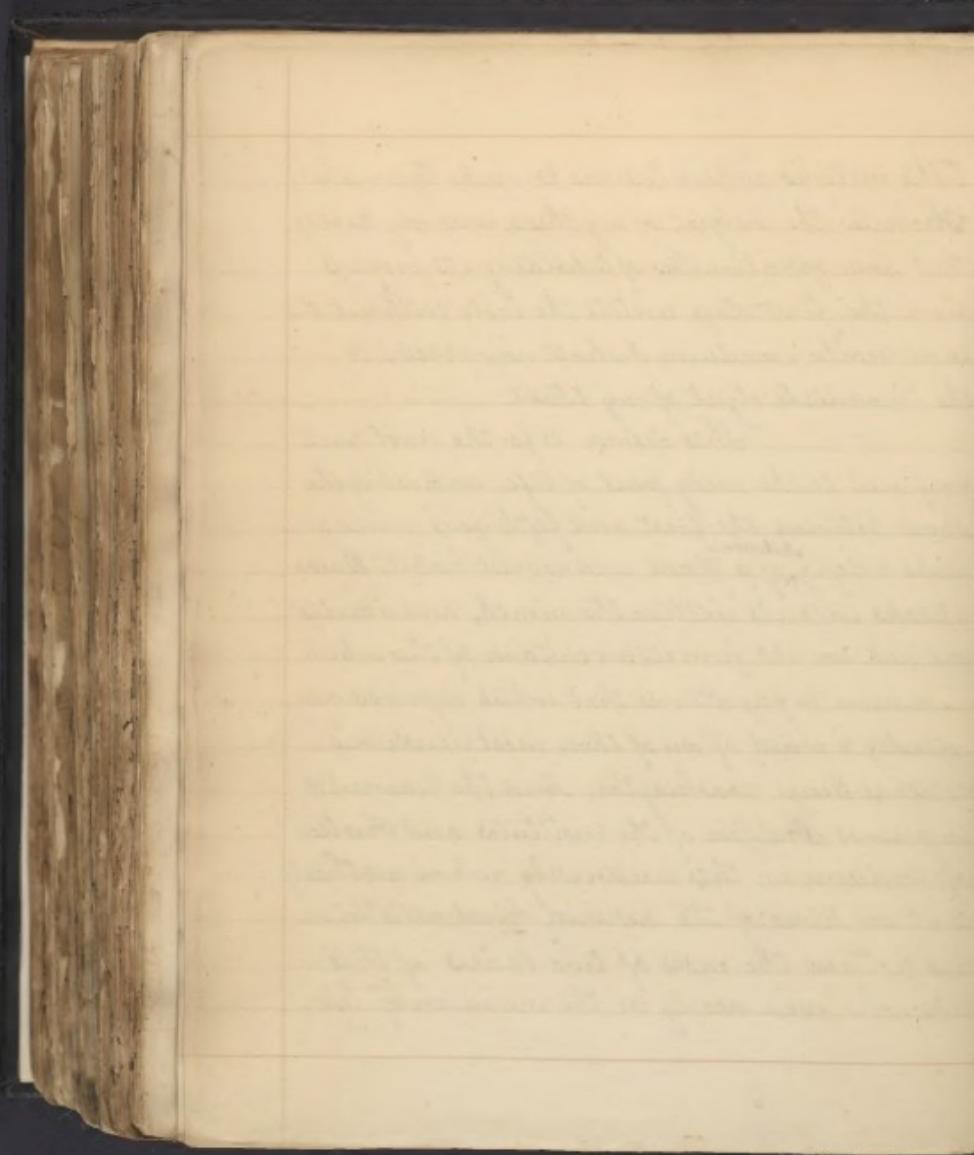


When we take a retrospective view of the disease, which affords the subject of the present dissertation; whether on the pages which physicians of the highest celebrity have left behind them, or even within the narrow limits of our own immediate observation, we certainly cannot fail of being struck with the tyranny with which it has hitherto exercised its power, and the melancholy ravages it has committed on hundreds of our species while yet in the morning of life, notwithstanding every effort of the most ingenious physicians.



The motives which led me to make Cynanche
Tachealis the subject of my thesis, were my having
had some opportunities of beholding its progress
from the first stage untill the last. Without a
more prolix exordium, I shall now proceed to
the immediate object of my thesis.

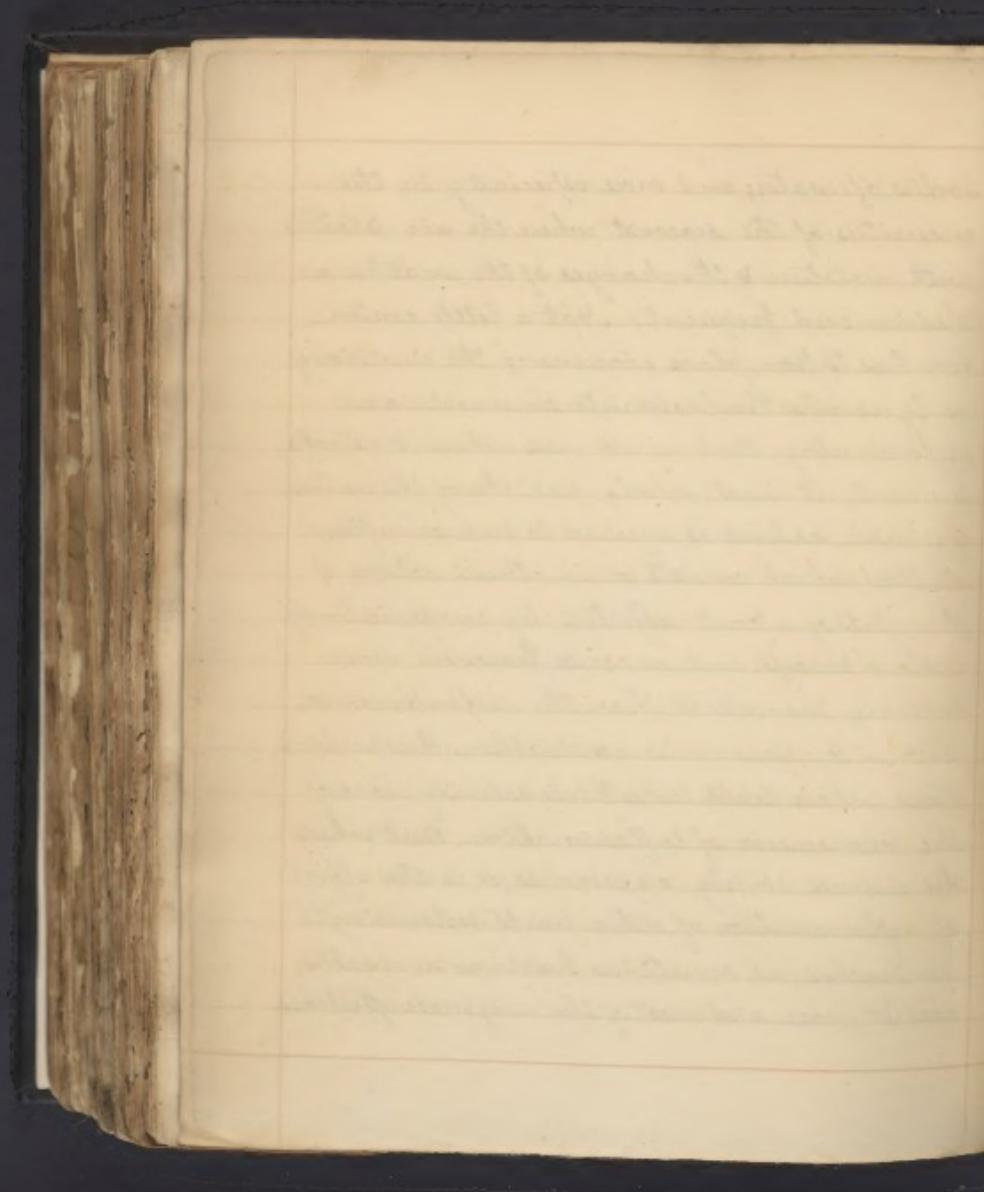
This disease is for the most part
confined to the early part of life, embracing the
space between the first and fifth year, and at-
tacks chiefly ^{children} of a florid and robust habit. It also
attacks infants within the month, and adults
are not exempt from it, an instance of this which
can never be forgotten is that which deprived our
country & world of one of their most illustrious
citizens George Washington. And the learned &
ingenious Professor of the institutes and Practice
of Medicine in this university, whose authority
is at all times of the superior kind, related in
his lectures the cases of two ladies of this
city, who were nearly in the meridian of life,



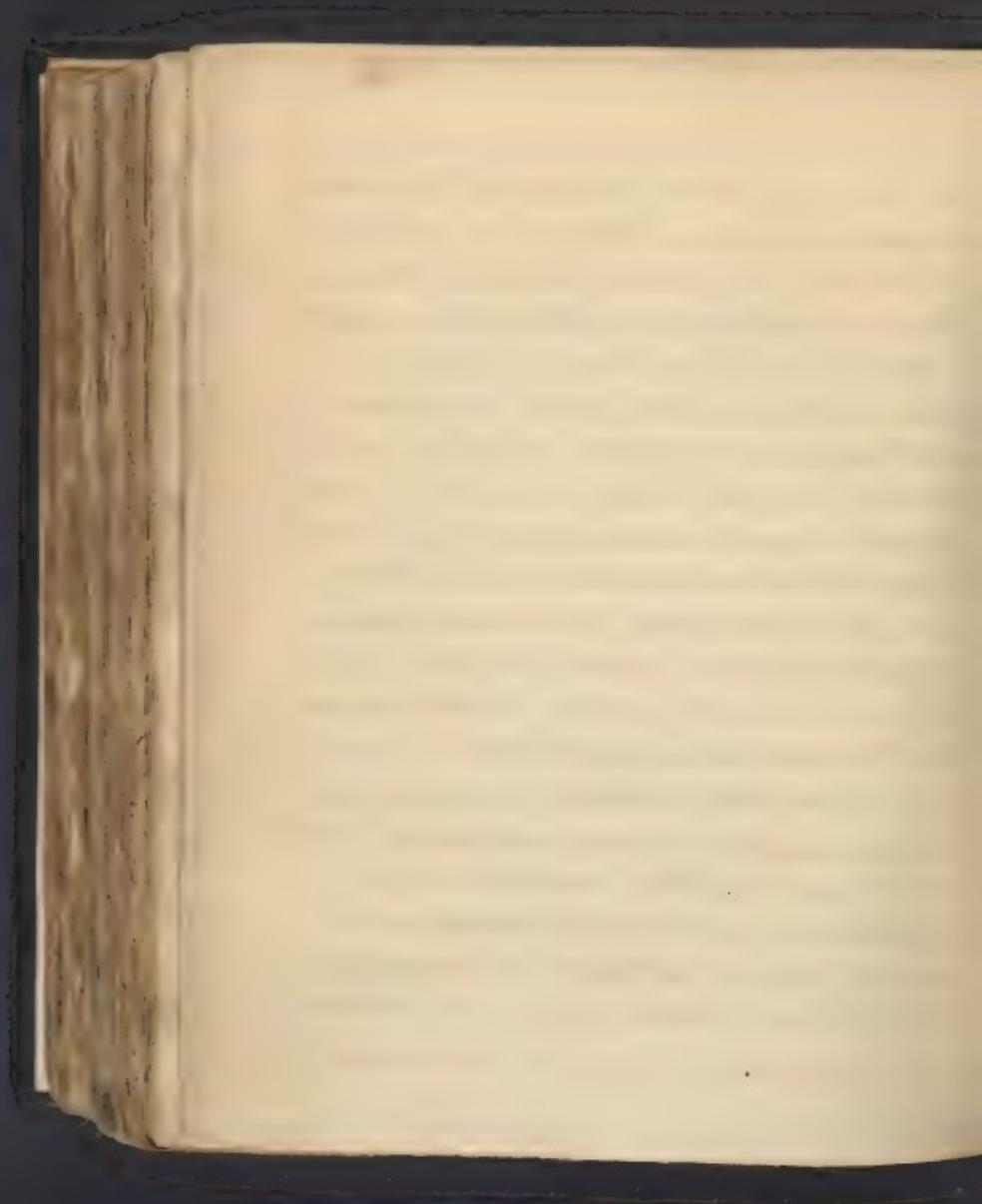
both of whom he attended in repeated attacks
of croup. So strongly were they predisposed to it,
that they scarcely ever escaped when exposed to
the causes. The same liability has been transmitted
to their children. Croup does not appear to be
contagious, but it sometimes prevails epi-
demically. It seems peculiar to some families,
and a child having been once attacked is very
 ^{liable} to its returns at uncertain periods, from any
 slight exposure to cold. It is known to be en-
 demic to certain places, as many situations
 on the sea board are so particularly exposed
 to it, as almost to preclude the raising of children.
The application of cold seems to be the general
 cause which produces this disease, and therefore
 it occurs more frequently in the winter and
 spring when the vicissitudes of temperature
 are more common. It has been observed to be
 most prevalent in cold and damp situations,
 such as those exposed to air passing over large

with all the other students at school by their
own imagination often, now, especially the students
at home who have no books and cannot go to
the school room and practice with all others
at all hours of the day, study outside with a
book I cannot imagine to find anything
elsewhere's worth so much time & place
as a collection now and again. With a book
one can, however, make the studies as
good as one will like & according to his
will either spend as much time or as little
time as he pleases. It makes no trouble at
all to do this, though it may be difficult at
first to learn all the words and
meanings of the language, but when once
one has learned them, they are all
easily understood.

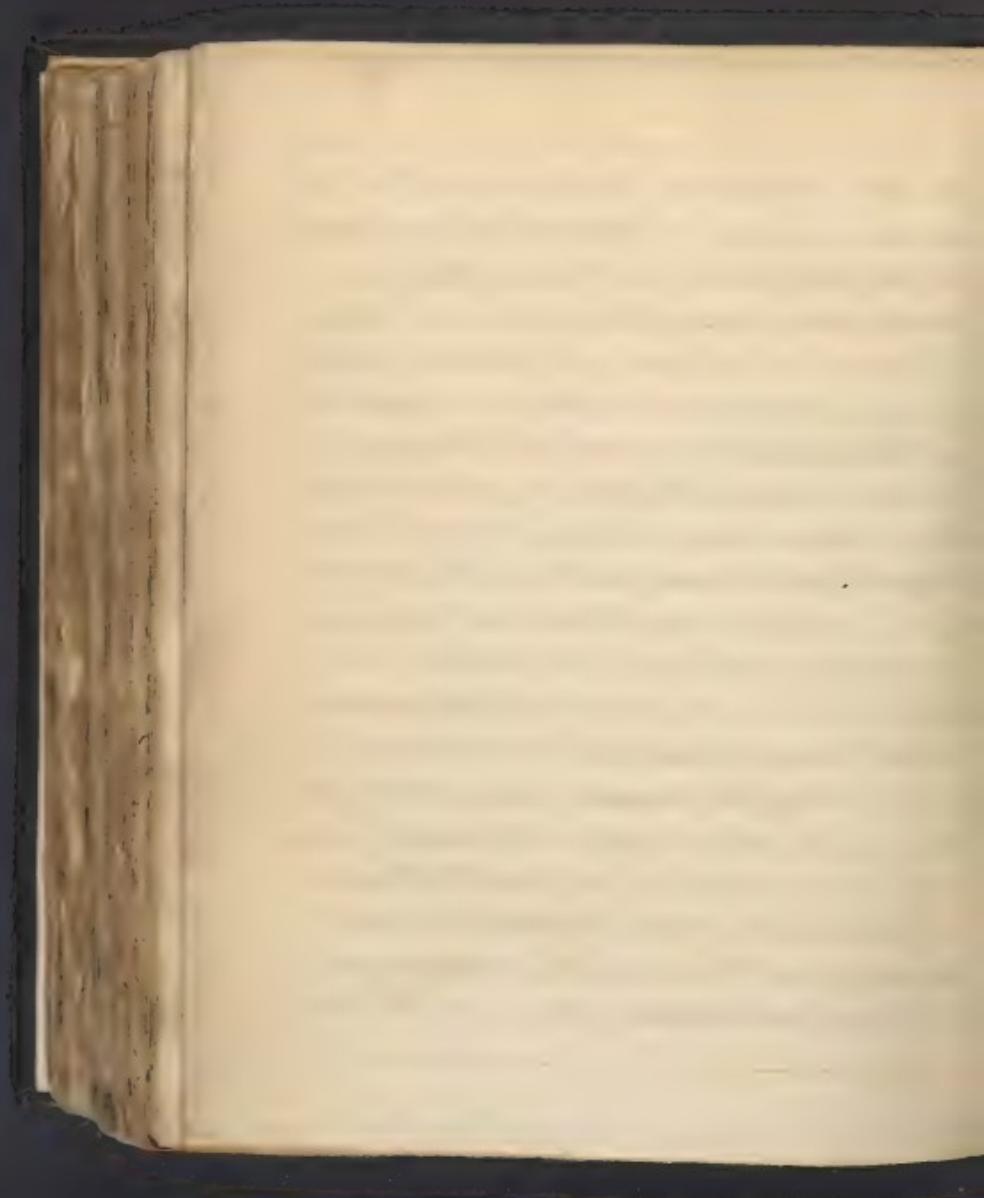
bodies of water; and more especially in the vicinities of the seacoast where the air is loaded with moisture & the changes of the weather are sudden and frequent. Not a little contention has taken place concerning the division of *Cynanche Trachealis* into spasmodic and inflammatory. But in all cases where it attacks suddenly it must surely partake of the nature of spasm, as time is required to induce inflammation which consists in an altered action of the vessels of a part affected, by comparatively a slow process; and no cause however more rapidly promotes it than the disturbance occasioned by spasmodic constriction. Inspections shew where death takes place rapidly none of the phenomena of inflammation. But where the disease slowly approaches, or is the effect of inflammation of other parts extending to the Trachea, as sometimes happens in measles, scarlet fever and most of the anginose affections,



then it is of a certain character. The disease generally comes on in the evening, after the patient has been much exposed to the weather during the day, and often after a slight attack of some days standing. At first his voice is observed to be hoarse, he appears dull drowsy and inactive. His illness does not prevent him from sleeping, but soon he wakes us with a most unusual cough, rough and stridulous which is peculiar to the disease, and has been compared to the sound resembling the crowing of a cock. Every fit of coughing agitates him very much, his face becomes flushed & swelled, his eyes bloodshot, a general tremor takes place, and there is a kind of convulsive endeavour to renew respiration at the close of each fit. There is constant danger of suffocation, a quick irritated pulse, and an unusual degree of restlessness and anxiety, the child will not remain long in one position,



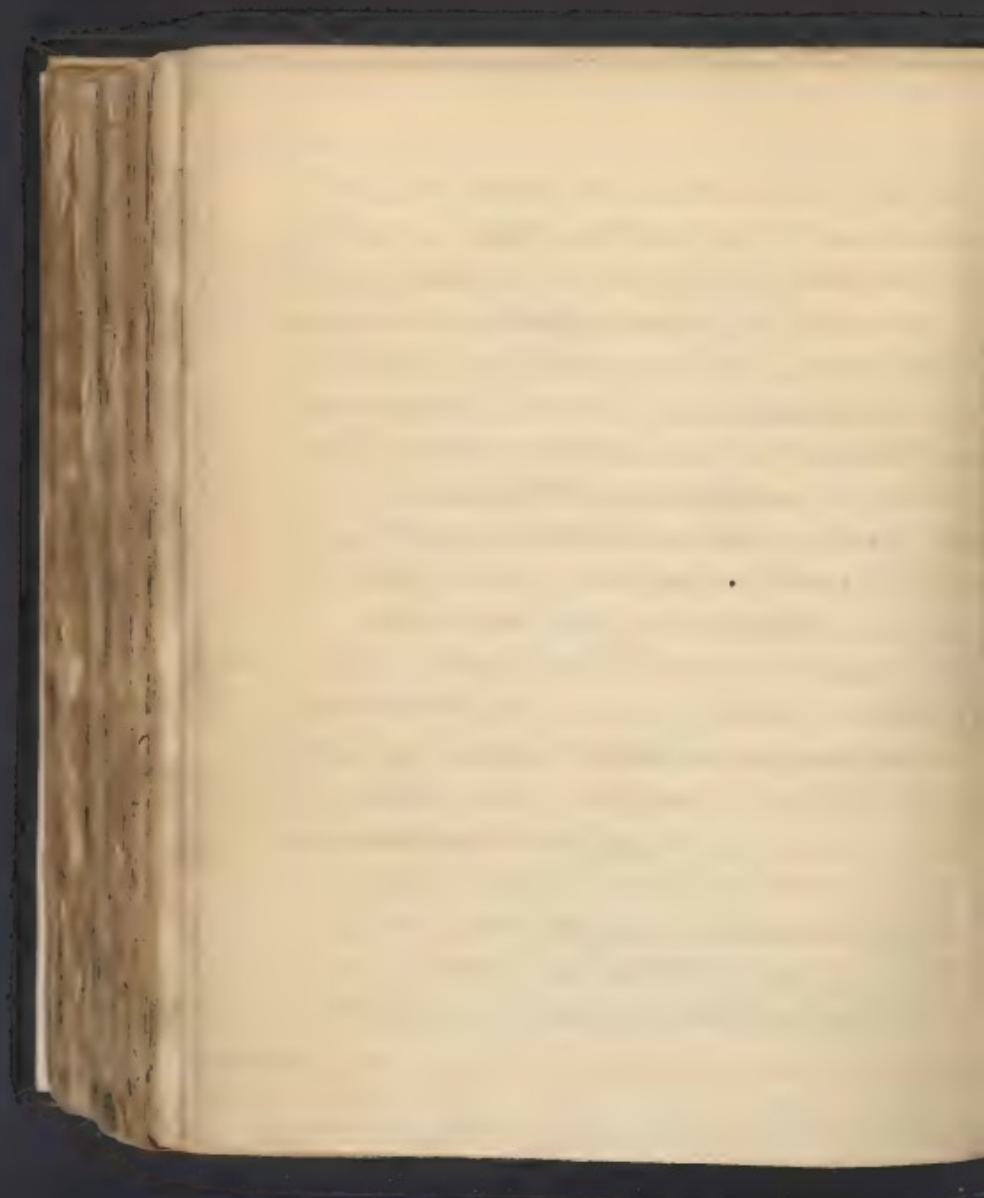
his skin burns and he has much thirst, it
whines and cries and roves about, and seems
to be excessively uneasy without suffering any
positive pain, cases of this nature are proba-
bly dependent on spasms, and terminate fatally
in a very short time where relief is not afforded.
In this disease as in most of the Phlegmatic,
however alarming the other symptoms of fever,
there is seldom any delirium. A degree of coma
frequently supervenes, death sometimes approa-
ches in a different way than from the former,
by profuse sweats and fainting fits. The
ceasing of the cough is to be ranked among
the fatal symptoms, since its absence can
only be attributed increasing insensibility, &
deprives the patient of the chief means of remo-
ving the morbid secretion from the Trachea
which has taken place. The breathing now
becomes small & hurried, the face assumes a
livid and cadaverous appearance, the pulse



flutters & the extremities become cold which
points out that death is at hand; sometimes
it will destroy the child by suffocation, in-
duced either by spasm affecting the muscles
of the glottis, or by a quantity of matter block-
ing up the bronchia; but when it terminates
in health it is by a resolution of the inflam-
mation, by a cessation of the spasm, by a
relief to the dyspnoea and the voice becoming
natural, with a copious and free expectoration
of the matter exuding from the trachea.

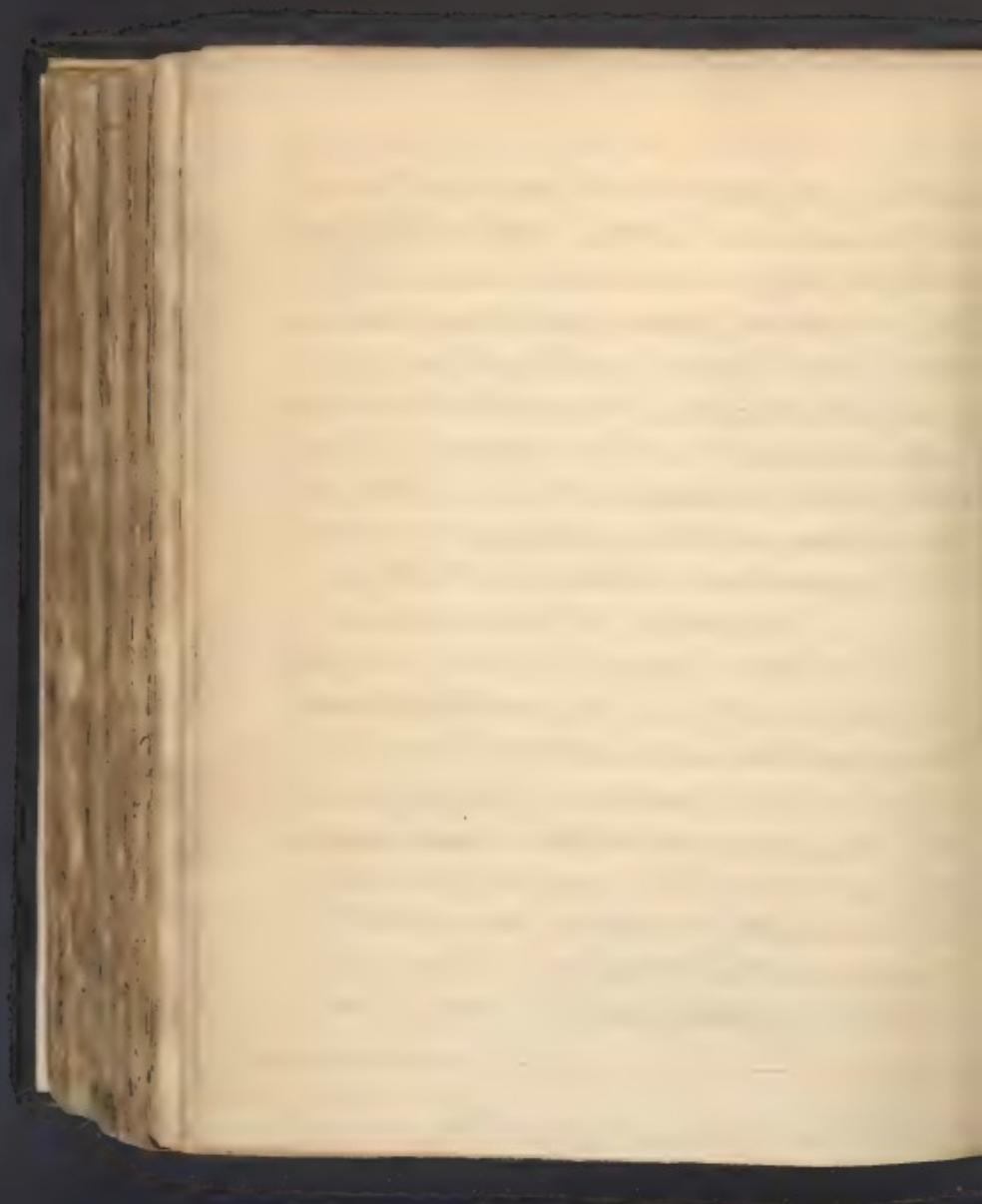
The disease has been known to terminate
fatally in twenty four or forty eight hours,
an instance of which fell under my obser-
vation, the child was taken ill on saturday
between the hours of four and six o'clock P.M.
and died the next day at about eleven A.M.

Dissections reveal to us slight marks of in-
flammation of the larynx, with more or less
of mucus such as is formed by most all

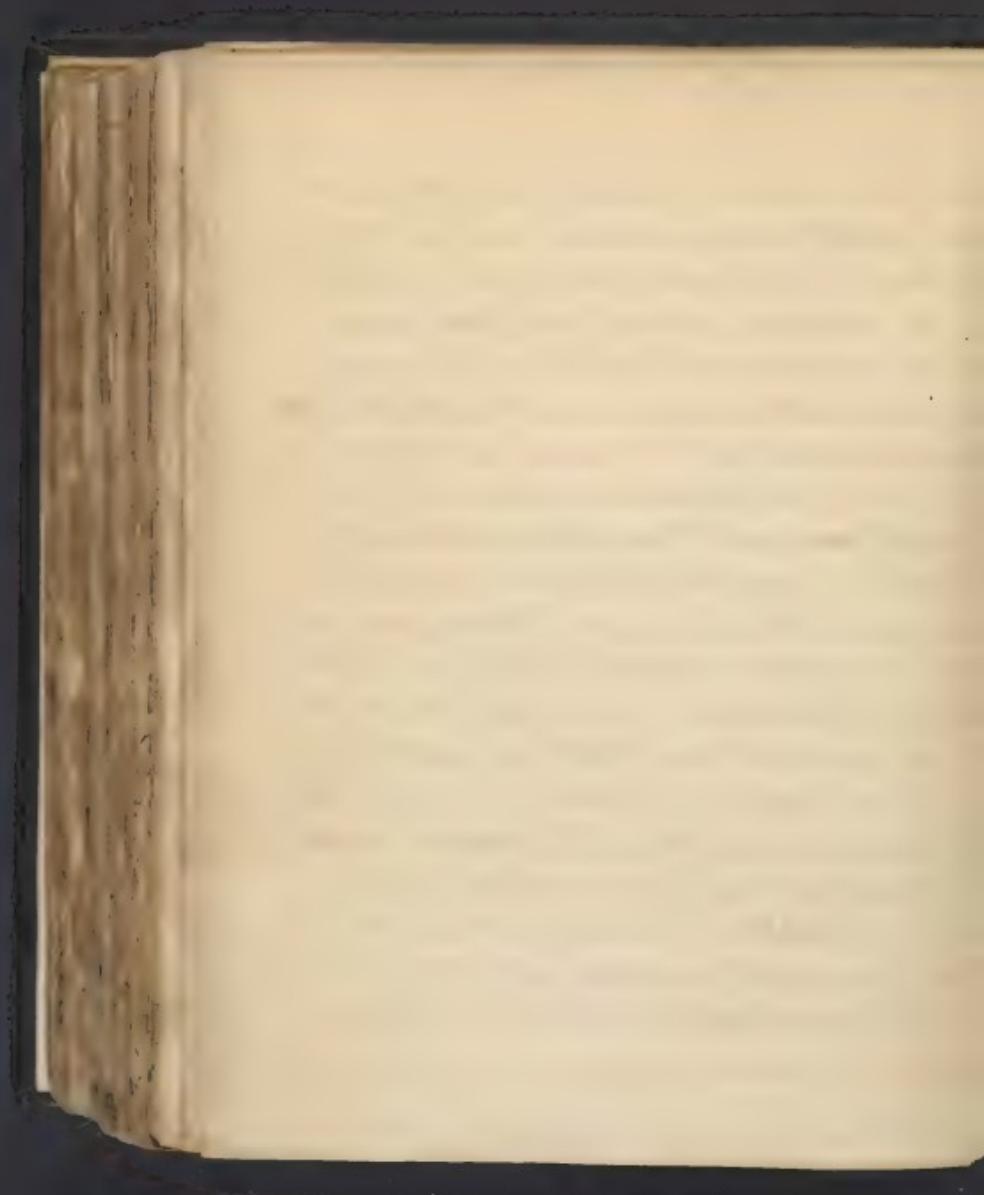


secreting surfaces; the lungs are not unusually found in a healthy state, but in some instances they are inflamed, occasionally they are found full of dark blood & serum, also a quantity of pus is met with, and in tracing the bronchia throughout their minute ramifications, they are usually found filled with mucus, and Burderus tells us they assume all the appearances observed after pneumonia, as adhesions to the pleura.

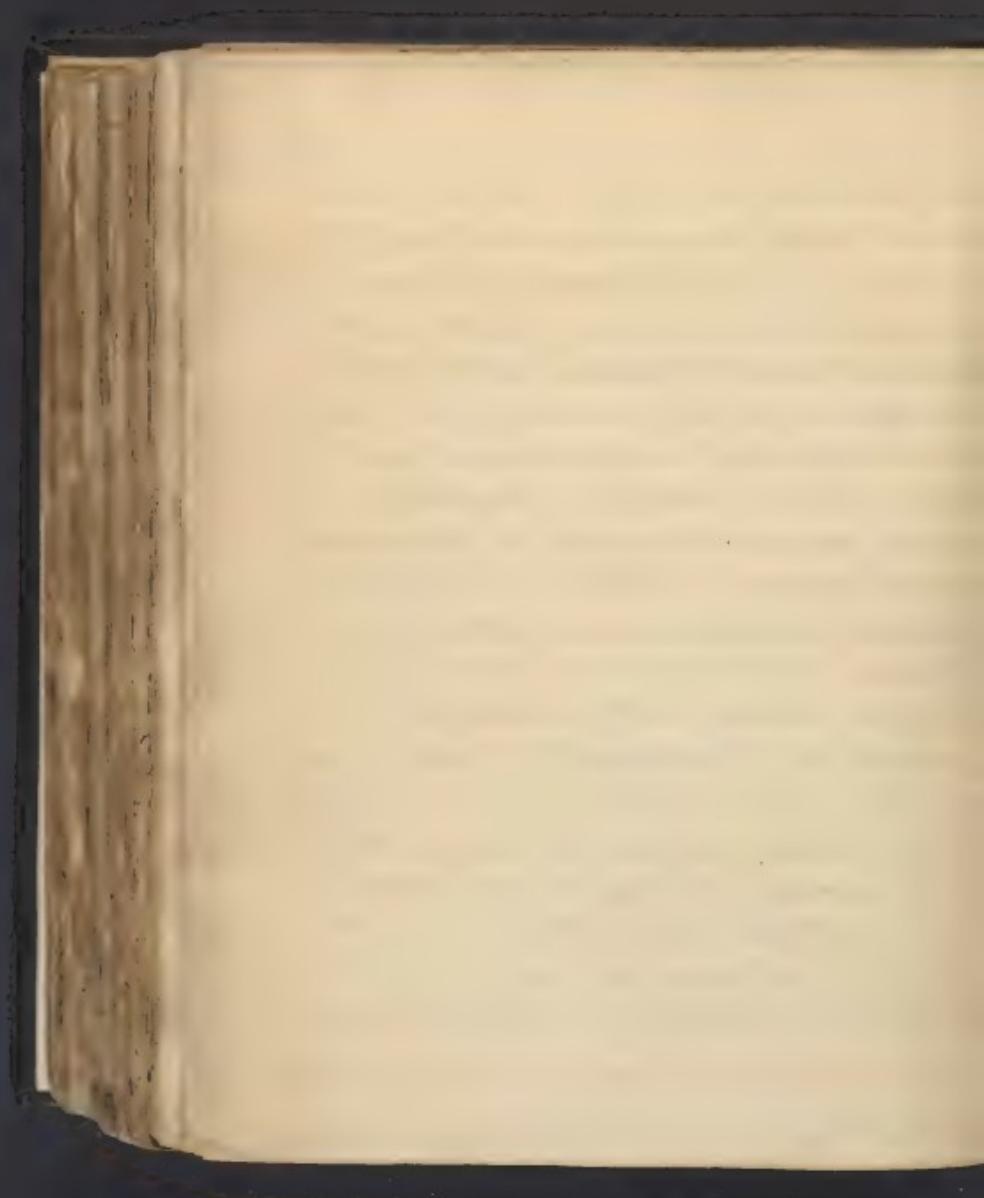
Reflecting the heteronatural membrane found sometimes lining and slightly adhering to the trachea, from the interposition of mucus like matter between it and its surface; which is sokeh of by different authors, there is no doubt that it does occasionally exist when the physician has not been called in at the first stage, and where the lancet and other depleting measures have not been very freely used. In sooth its



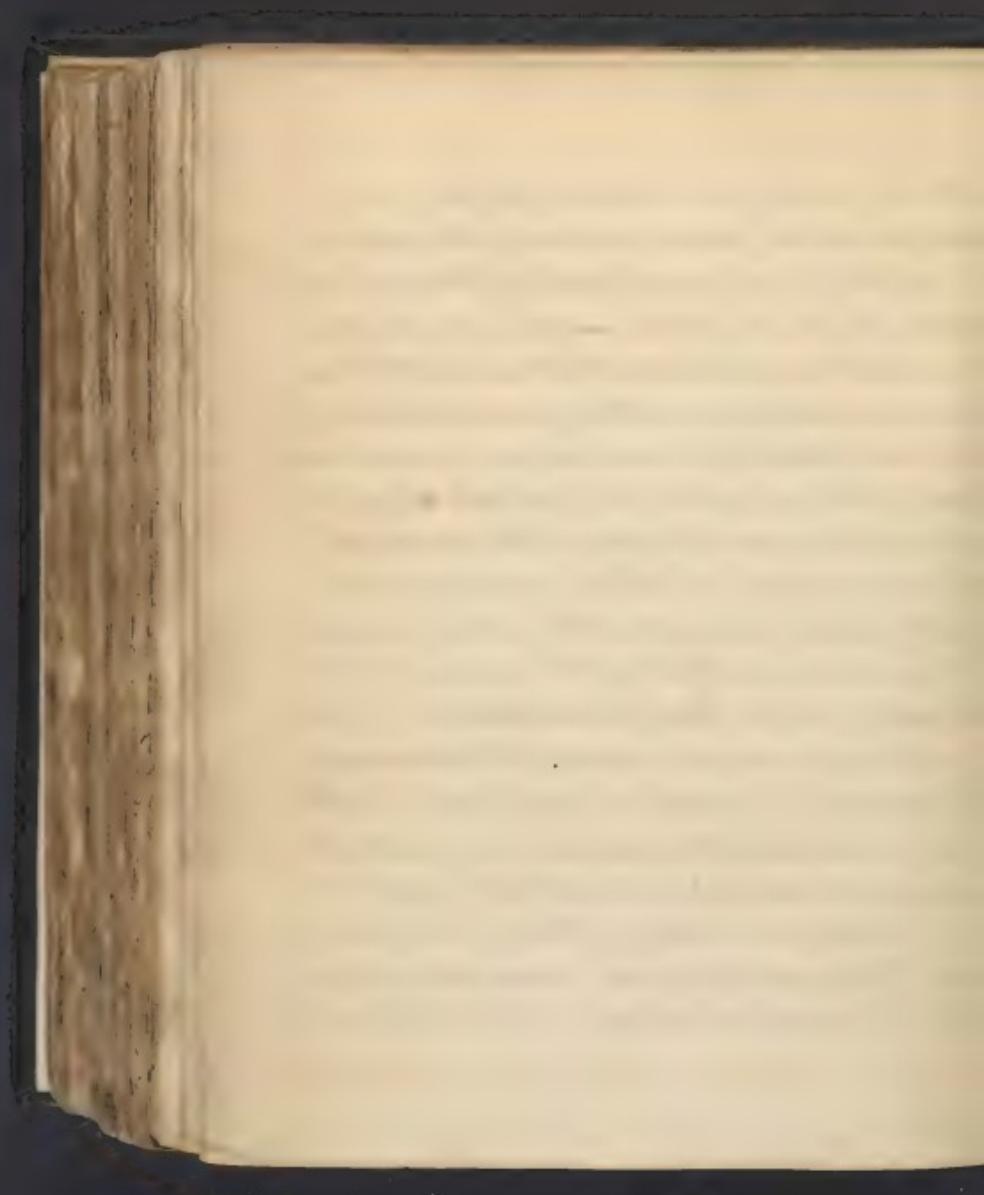
existence we have the authority of that excellent writer Cheyne, which is corroborated by Dr. Bard of New-york, who informs us that he has commonly observed in those cases, which he examined, that the membrane extended into the Bronchia as well as the Trachea, he also states that the disease is not even limited to the Trachea & Bronchia, but the lungs throughout their whole substance to a certain degree participate in the affection, insomuch that he has seen those organs rendered so dense and solid, that they exhibited in their appearance a great resemblance to the firm structure of the liver, instead of the loose and springy texture in which they naturally exist. From the appearances found in dissection, and the symptoms which attend the disease there can be no doubt, but that it is an inflammatory affection of the mucous membrane of the Throat, Larynx



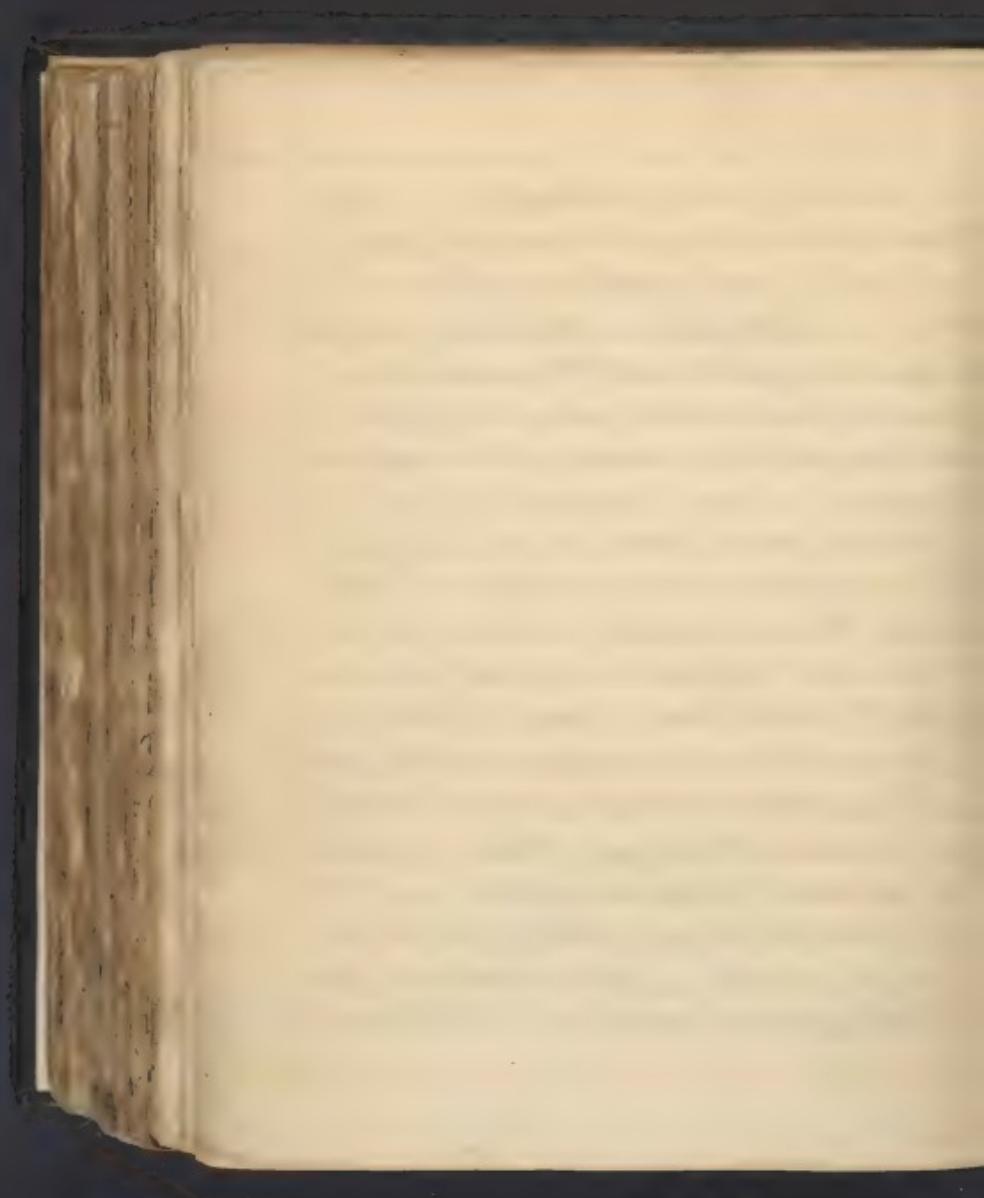
and parts immediately connected therewith,
attended with spasmodic contraction of the
muscles. In the first stages of the disease,
our most strenuous endeavours should be
exerted to arrest the increased action which
prevails, and for this purpose bleeding both
general and local, emetics, purgatives &
blisters are to be resorted to; therefore an emetic
of Antimonium Tartaratum or Precacuanha
should be given, but the first is to be preferred
on account of its dose being smaller, to aid the
operation of the emetic the patient should be
placed in a warm bath, it alone has been
known to cure the disease. If the medicine not
operating or had the desired effect we should
draw some blood, which will prevent the of-
fusion into the Bronchia, and repeat it and
the bath. If the attack still continues with
little or no abatement we must resort to topo-
cal depilation by leeches or cups. As the cups are



apt to impede respiration by pressure and
suction when placed anteriorly they should
be applied to the sides or back of the neck; much
advantage may be derived from a sinapism
or a blister applied over the throat. All these
remedies failing and the symptoms becoming
violent, bleeding ad delirium animi has
been practised with the happiest effect, the
moment syncope takes place the hoarseness,
cough impeded respiration and fever will
mostly yield. Throughout the whole course of
the disease an antiphlogistic regimen will be
necessary, and to keep the bowels open by some
nux vomica, or common injection. The removal of
the preceding symptoms indicate to us, that the
disease has partially abated, and we should
administer calomel in large doses in order to
purge freely, and carry off the lingering sym-
ptoms. To relieve the cough, hoarseness and de-
ficient expectoration, some of the expectorants

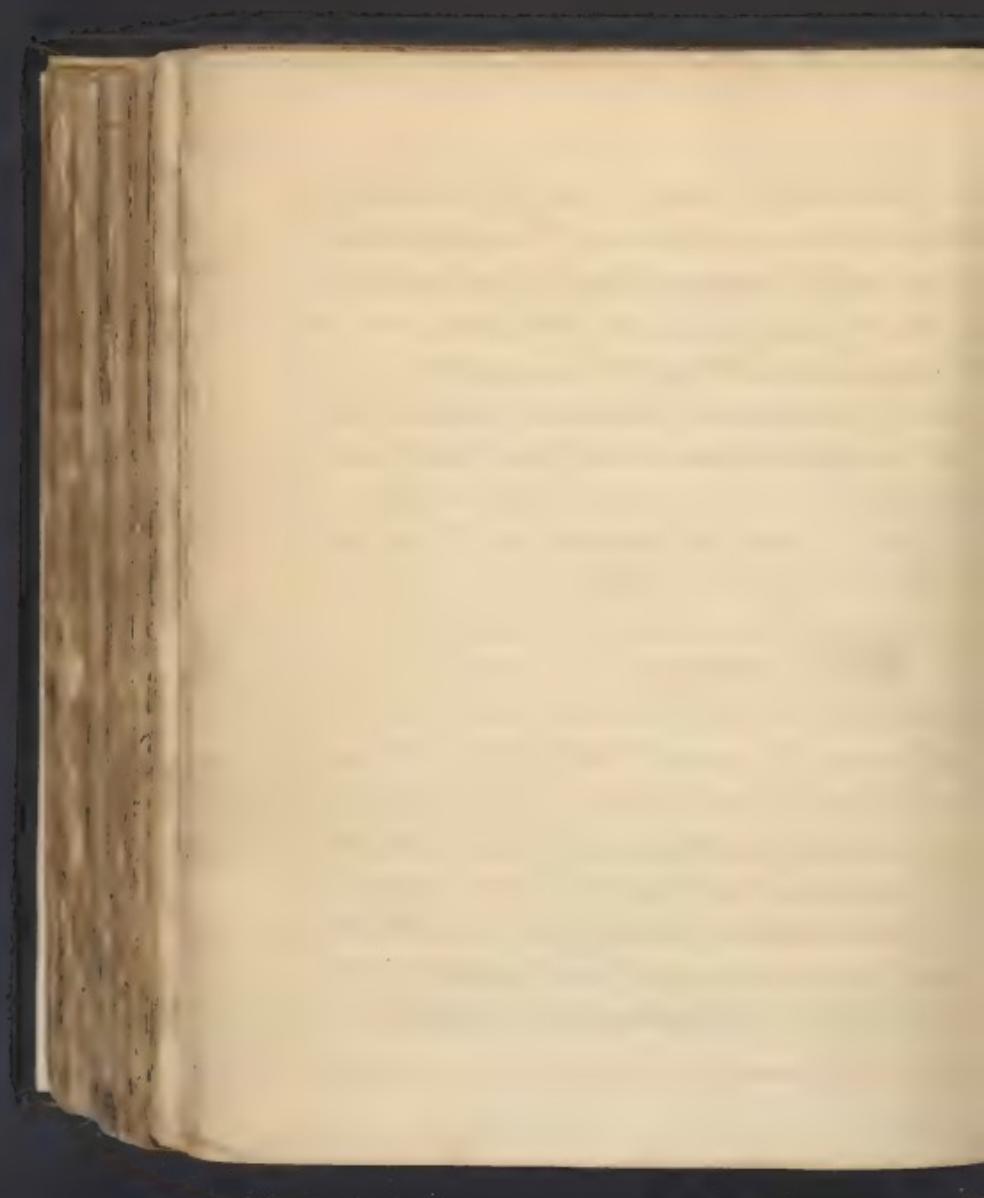


such as the diluent drinks of Gum arabic,
Flaxseed tea or inhaling the vapour arising
from warm water with the addition of
ether or camphor, but a decoction of Polygala
tenuifolia is by far the best. The disease being
permitted to continue it extends itself to the
Bronchia, and the substance of the lungs become
loaded with mucus or coagulated lymph or
filled with blood. Now we have a difference
of the symptoms, the lungs loaded and op-
preised, the pupil widely dilated attended
with a wild haggard and ghastly counte-
nance, the cheeks have a circumscribed flush
with a mixture of lividness, respiration very
laborous with a disturbed pulse. We are
now to relieve the lungs of their oppression
and reestablish a free circulation, and to
affect this the warm bath and the sti-
mulating emetics are to be employed such
as Sulphur zinci, Antimonium Tartarication

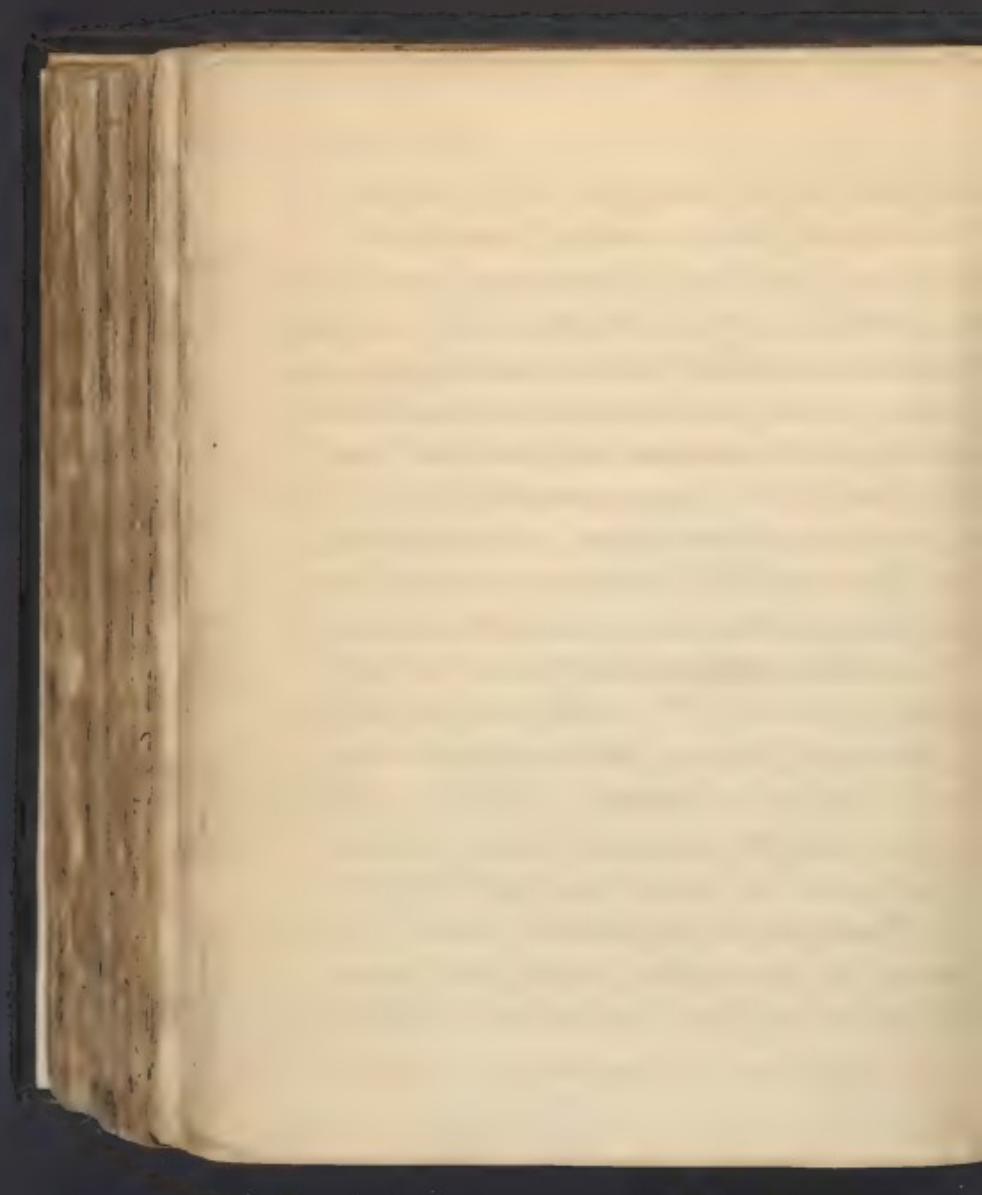


or Puccuanka; and by some the juice of the
Allium sativum is preferred. The after treat-
ment is to be accomplished by expectorants
as the oxy mel or vinegar of Squills, Castorate
of ammonia, *Isolagula senega*, or Doctor
Ennes here by us, to whom we are indebted
for many improvements in medicine.

Calomel has been very much extolled in
coughs by Doctor Huhn late of this city, and
by Doctor Hamilton of Edinburgh and
according to their statements much benefit
was derived from it in the generality of cases
which fell under their immediate notice,
but from the many trials of it by the med-
ical ^{men} of this city, and the country, practitio-
ners it has proved at present to be inferior to
the foregoing treatment. To get rid of the
membrane which sometimes lines the bron-
chia various means have been tried, the
nitric emetics seems to me the best.

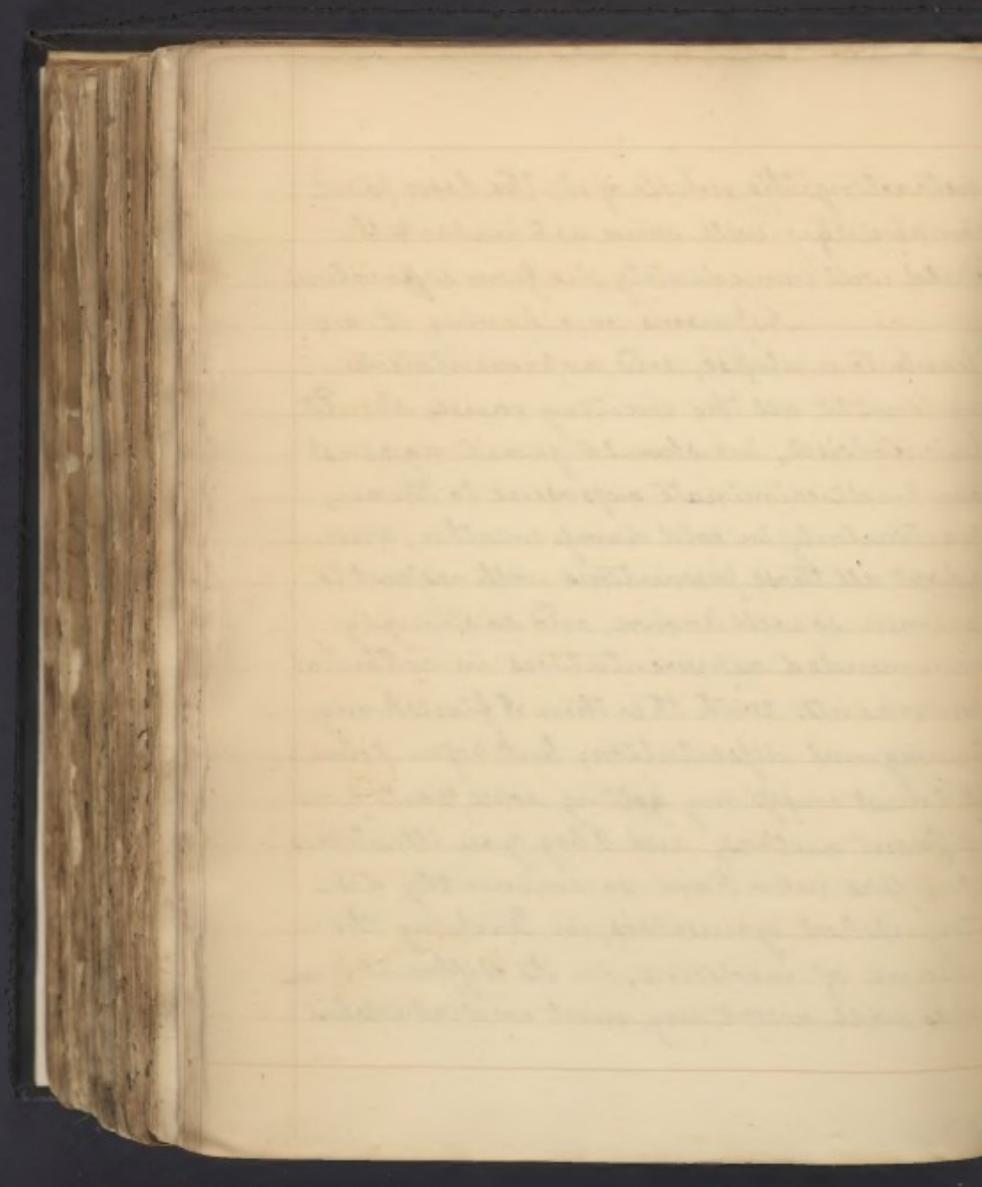


adapted to the case, first administering
the Sulphur Birei and afterwards the
Sulphur Cupri, and in many cases it will
be suspended; some have proposed and even
carried into effect the operation of Laryn-
gotomy as the last resource, and with suc-
cess; but as the disease at this time has
extended to the lungs, no relief in my opin-
ion can be obtained from such an opera-
tion, besides if the incision was even made
and the forceps introduced, the membrane
very rarely possesses that tenacity which
would enable us to pull it out; for althou-
gh the upper part of the hardened mem-
brane might be extracted, still we should
not be able to remove the fluid portion
which fills the lower part of the trachea
and bronchia, and which is one of the chief
obstacles to respiration. And if we loosen
the membrane from the Trachea without



extracting the whole of it, the loose part remaining; will serve as a valve & the child will immediately die from suffocation.

As persons once having it are liable to a relapse, and as preventatives against it all the exciting causes should be avoided, we should guard against an indiscriminate exposure to the air, particularly in cold damp weather, and adopt all those precautions with respect to regimen so well known, and so strongly recommended as preventatives in catarrhal complaints. With this then I finish my inaugural dissertation; but before I close it I must confess my getting some parts from different authors; and I beg you illustrious professors who have so eminently distinguished yourselves, in teaching the science of medicine, in its different branches will accept my most cordial wishes



for your happiness, and be assured
that for the instructions I have received
from your private as well as public
lectures, and the many opportunities of
improvement I have received thro' them
while a student of this university, I shall
ever retain a heart felt remembrance.

in which were included some
books which were written by
the author himself, and
which had been written in
and around the year 1800.